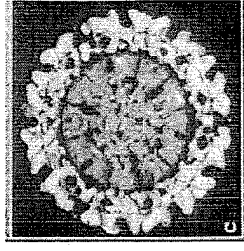
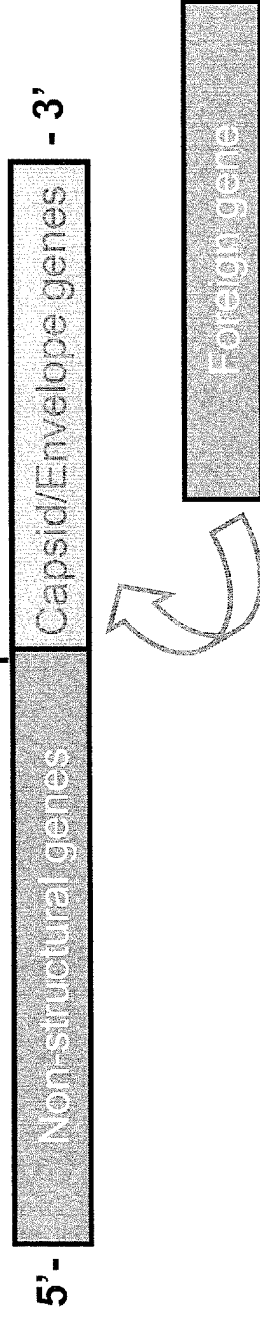


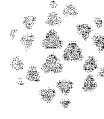
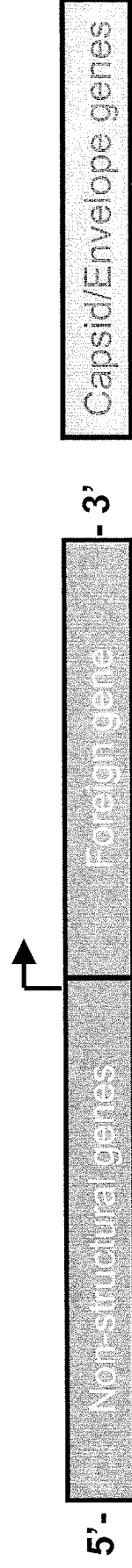
Generating a Self-replicating mRNA or “Replicon” Containing a Foreign Gene



The full-length alphavirus RNA is modified to contain a foreign gene



Resulting in a self-replicating mRNA or “replicon” and separate helper function

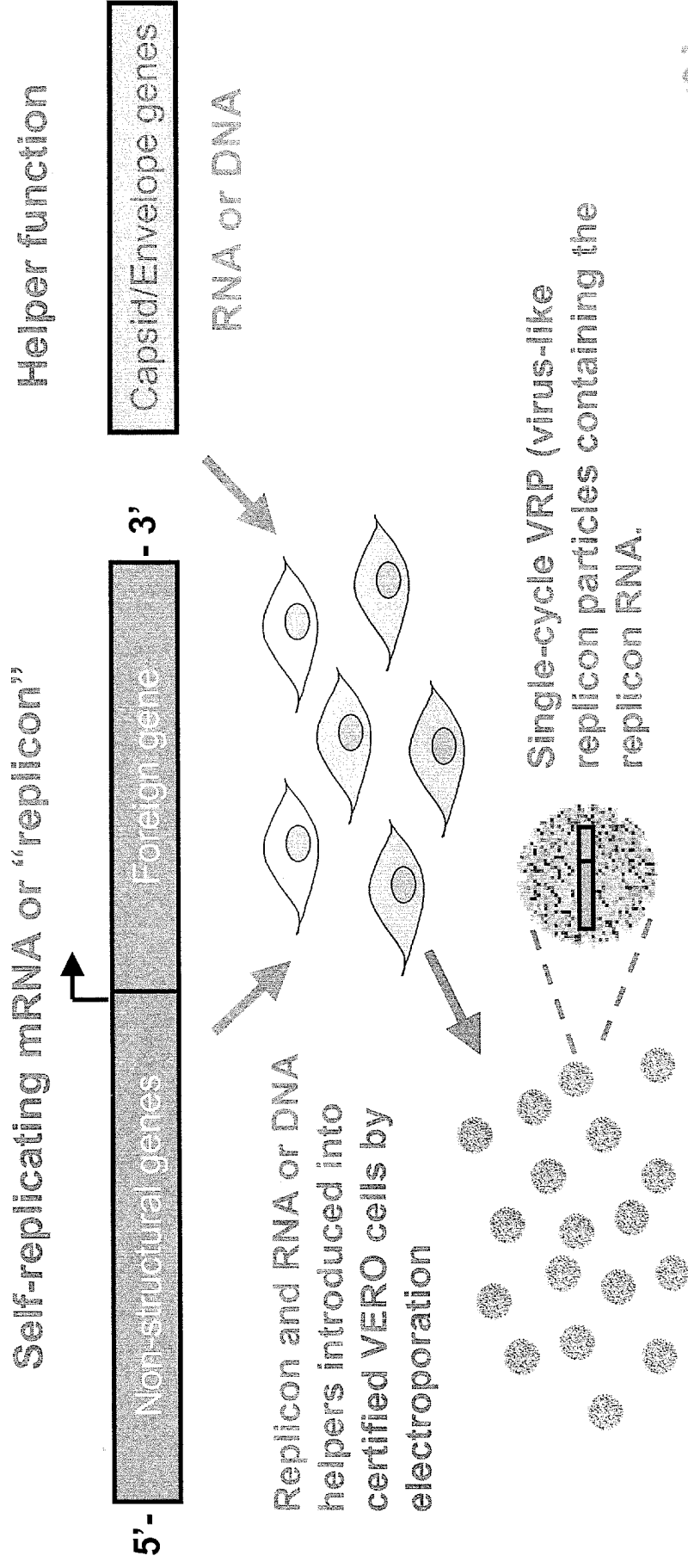
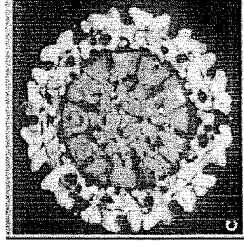


ALPHA VAX

Vaccines Redefined

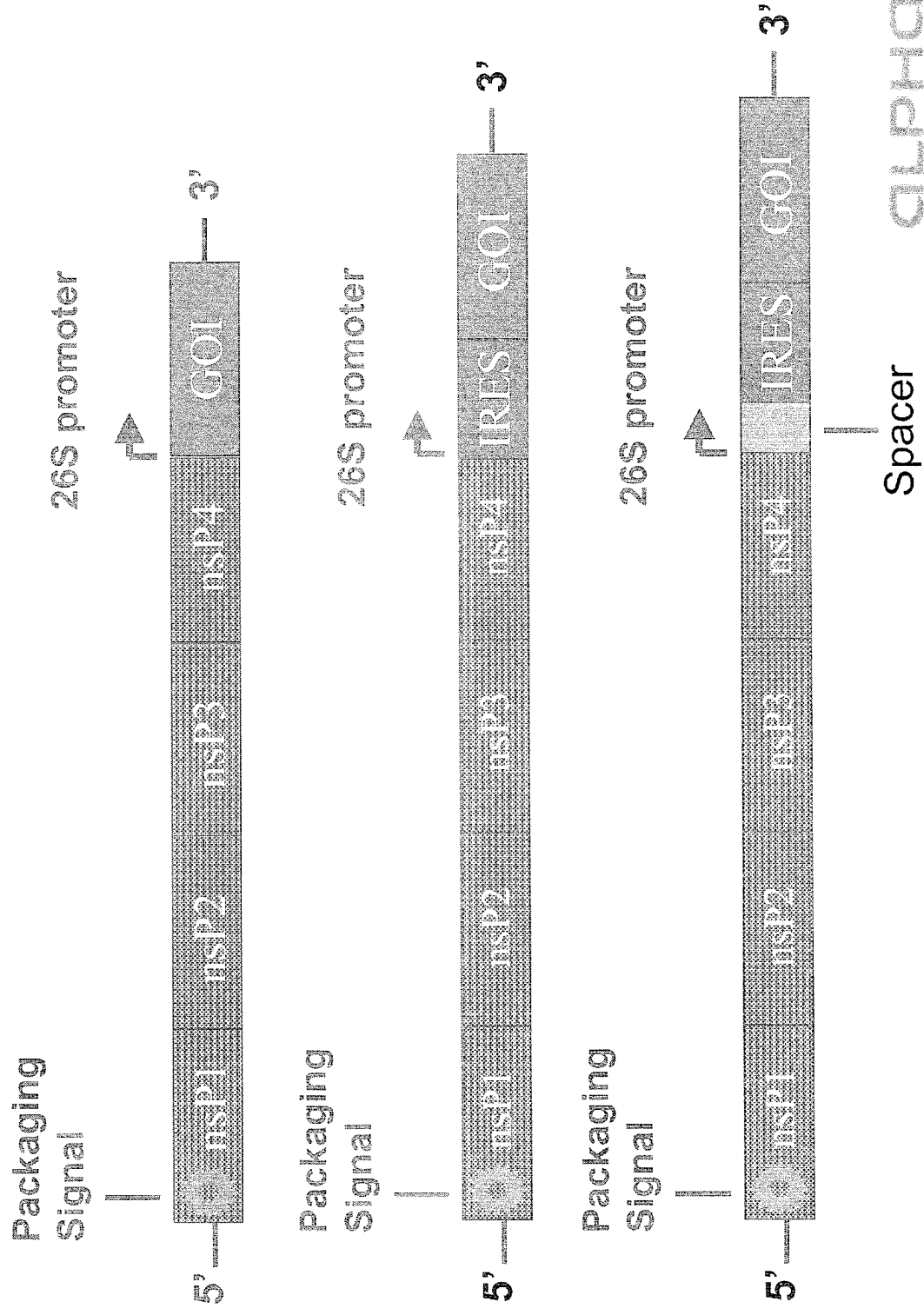
Production of Alphavaccines

(in Transfected WHO Vero Cells)

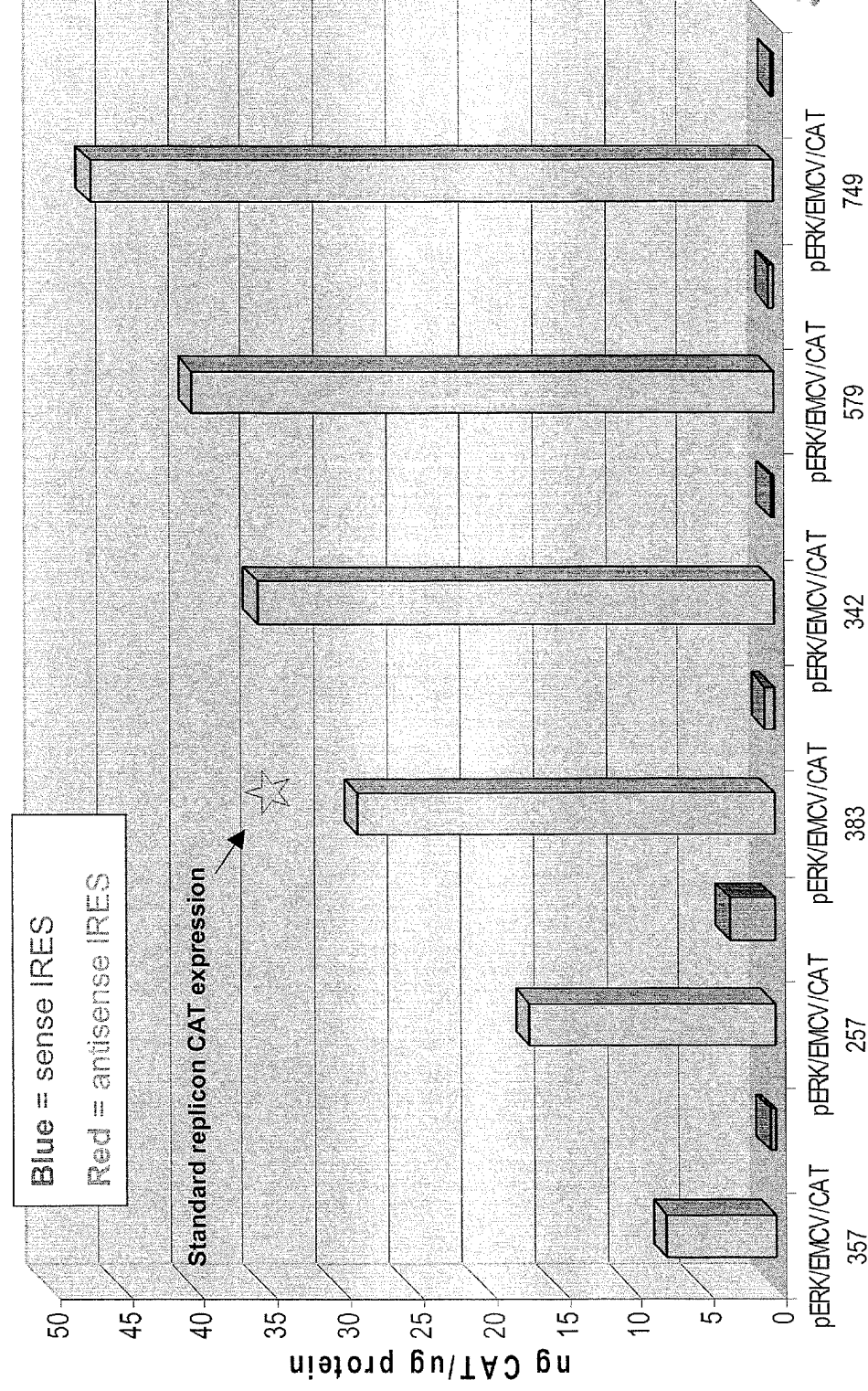


Virus-like replicon particles (VRP) harvested after 18-24 hours incubation

Standard vs IRES-Based Replicon



Spacer-Regulated IRES Control of Replicon Expression



ALPHA VAX

Vaccines Redefined